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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/063,550	05/02/2002	Eddy B. Boskamp	GEMS8081.091	9994

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EXAMINER

LIN, JEYUHU

ART UNIT PAPER NUMBER

3737

DATE MAILED: 10/03/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/063,550

Applicant(s)

BOSKAMP, EDDY B.

Examiner

Jeoyuh Lin

Art Unit

3737

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 02 May 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 8-12 and 14-22 is/are rejected.
- 7) ☒ Claim(s) 5, 7 and 13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2. 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –  
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

-Claims 1, 2, 4, 6, 8, 9, 11, 12, 14, 15, and 17-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Murakami et al. (US 5,384,536)

-Murakami teaches an MR imager with a wireless RF module, (Figure 2, item 1) comprising the following:

-Modulator modulating carrier signal with an MR signal in an RF coil. (Column 4, lines 39-67)

-Transmitter (Same as above).

-Wireless receiver that receives modulated for subsequent data processing and image reconstruction. (Column 5, lines 10-15)

-Modulator amplitude modulates the carrier signal, as in claim 2. (Column 5, lines 15-20)

-Remote receiver from MR apparatus, as in 4.

-Transmitter transmitting the modulated signal out of bore of MRI, as in 6 and 11. (Column 5, lines 5-10)

-Receiver wirelessly connected to the transmitter and configured to receive the modulated signal transmitted by the transmitter, as in 12.

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- Receiver at the end of the bore, as in 14. (Column 5, lines 5-19)
- Rechargeable battery, as in 15 and 21. (Column 6, lines 37-54)
- Rectified signal, which is inherent during signal processing, as in 20. (Column 5, line 15)
- Means to improve SNR, through the use of filters as in 22. (Column 6, lines 10-15)

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

-Claims 3, 9, 10 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murakami et al., as applied to claim 1 and 8 above, and further in view of Gadzinski (US 2001/0051766 A1).

Murakami meets all the claims further including a pre-amplifier, an oscillator that would be inherent in any rf transmitter (Figure 8, items 9 and 26), except that it fails to teach a modulator that amplitude modulates a carrier signal frequency between 300 MHz-3GHz (UHF range), preferably at 900 MHz, as claim 16 discloses. Gadzinski teaches signal transmission of MR signals at 2.4 GHz (Paragraph 46). It would have been a matter of design choice to one having ordinary skill in the art at the time the invention was made to adapt the Gadzinski's teaching to Murakami's device such that more data could be transmitted wirelessly, with less noise interference.

***Allowable Subject Matter***

3. Claims 5, 7, and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

-Leussler (US 2003/0135110 A1) teaches a catheter for use in a magnetic resonance imaging apparatus, comprising a wireless RF transmission antenna, an oscillator for generating carrier rf signal (Paragraph 40)

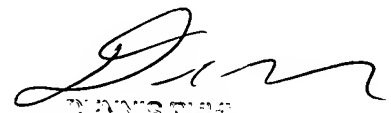
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeoyuh Lin whose telephone number is (703) 306-5990. The examiner can normally be reached on m-f, 8:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dennis Ruhl can be reached on (703) 308-2262. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0858.

JYL

JYL  
September 22, 2003

  
DENNIS Ruhl  
PRIMARY EXAMINER